

# Triple Bottom Line Accounting and How it Affects the Performance of Quoted Agricultural Product Firms in Nigeria

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## ABSTRACT

This study is to ascertain triple bottom line accounting and how it affects the performance of quoted agricultural product firms in Nigeria. The study adopted a cross-sectional research design. We examined the inter-relationship among variables using data obtained from Nigeria Stock Exchange on a cross section of the performance of quoted agricultural firms in specific periods of 2016 to 2020. A total of two hypotheses was formulated, and analyzed using multiple regression with the adoption of fixed effect or least square dummy variable (LSDV) model. From our findings, Triple Bottom Line Accounting jointly has significant influence on the performance of quoted agricultural product firms in Nigeria. It was established that Economic Cost (EC) and Environmental Cost (EVC) have a positive and significant effect on the variables of the performance of quoted agricultural product firms in Nigeria while Social Cost has positive and non-significant effect on the variable of the performance of quoted agricultural product firms in Nigeria. Recommendations were made that government, as the custodian and protector of the society, and the environment, should help put in place some guidelines for manufacturers to contribute to their environment and the society at large. Similarly, managers should adopt triple bottom line as a guide to report to stakeholder on the allocation of benefits not only to shareholders but to other stakeholders.

**KEYWORDS:** *Triple Bottom Line, Fixed effect, Economic cost, Environmental cost*

## INTRODUCTION

Triple Bottom Line Accounting refers to a method of measuring the economic, environmental and social equity impacts of an organization rather than the traditional practice of measuring just the financial bottom line. Elkington (2004) coined 'triple bottom line' as a new term to advance sustainability agenda. His definition of Triple Bottom Line used the terms "profit", "people" and "planet" as the three lines. In this study, the economic, social and environmental lines refer to profit, people, and planet respectively. Sustainable development involves the pursuit of economic prosperity, environmental quality and social equity. Companies aiming for sustainability need to perform, for not only a single financial bottom line, but for the triple bottom line. Triple Bottom Line is intended to go beyond previous construction of sustainable development and corporate social responsibility to encompass an

approach that emphasizes economic prosperity, social development and environmental quality as an integrated method of doing business (Elkington, 2004). This definition implies a shift away from the emphasis of organizations on short-term financial goals to long-term social, environmental and economic impacts.

Triple Bottom Line is intended to go beyond previous construction of sustainable development and corporate social responsibility to encompass an approach that emphasizes economic prosperity, social development and environmental quality as an integrated method of doing business (Elkington, 2004). Business is a socio-economic activity and it draws its inputs from the society. Hence, its objectives should include the welfare of the society (Abbot & Monsen, 2019). Business therefore, owes a responsibility towards solving many social problems.

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Triple bottom line accounting is a broader frame work that incorporates three dimensions of performance which include economic, social and environmental accounting (Onyali, 2014). The same can be said of sustainability reporting which is regarded as the integration of economic, social and environmental reporting (Middle-Brooks, Miltenberger, Tweedy, Newman & Follman 2009 in Piper, Mang, Knox & Waddel, 2012). The triple bottom line accounting of social, economic and environmental reports considerably alters how organizations and stakeholders measure sustainable success.

Slaper and Hall (2019) argue that looking to Triple Bottom Line sustainability, the economic measures are money-related figures in an organization, such as fund employed in generating income. The environmental measures are the potential influences of business environmental impacts on natural resources and their viability. This would incorporate the contamination impact of water and air quality, greenhouse gas emissions, material recycling rates, water consumption, energy consumption, pollutant gases and substances, waste management of hazards, landfill and material waste management. The social dimension measures incorporate education level in the local community, equity level, welfare, careers retention, charitable contributions, level of health care and well-being, rate of unemployment, quality of life, per capita, violent crimes, relative poverty and social capital. In brief, the firm's stakeholders are the right parties to determine the appropriate set of Triple Bottom Line sustainability measures applicable to subjected business tasks and activities that would remain flexible and dynamic during changes in business circumstances.

Triple bottom line accounting deals with economic, social and environmental information in corporate annual reports. The challenge confronting the listed manufacturing companies while adopting the triple bottom line approaches as their corporate philosophy is the difficulty in stating key issues to be tackled in their triple bottom line reports, because it has not been stated as a statute in any acts guiding corporations in Nigeria. Consequently, the use of triple bottom line reporting has raised doubts as to the effect it has on the performance of companies in Nigeria (Aktaruddin, 2015). Triple Bottom Line encounters the challenges of how to make an index that is both comprehensive and meaningful and how to identify suitable data for the variables that compose the index. The Genuine Progress Indicator (GPI), for example, consists of variables that encompass economic, social and environmental factors. Those variables are converted into monetary units. Though academics agree on the definition of Triple Bottom

Line, the challenge and real trick is how to measure it, as the three domains do not have a common measurement unit (Slaper & Hall, 2019). The interest in reporting accounts in a triple bottom line has inspired this research to look at actionable knowledge that would amount to an efficient and robust remedy for performance of listed manufacturing firms in Nigeria for now and in the future.

### Objectives of the Study

The main objective of the study is to ascertain triple bottom line accounting and how it affects the performance of quoted agricultural product firms in Nigeria. The specific objectives are as follows:

1. To detect the effect of economic cost, social cost and environmental cost on market value per share of Quoted Agricultural Product Firms in Nigeria.
2. To ascertain the effect of economic cost, social cost and environmental cost on Tobins Q Ratio of Quoted Agricultural Product Firms in Nigeria.

### Research Questions

Based on the objectives of the study, the researcher seeks answers to the following research questions:

1. How do economic cost, social cost and environmental cost affect market value per share of Quoted Agricultural Product Firms in Nigeria?
2. In which way do economic cost, social cost and environmental cost affect Tobins Q Ratio of Quoted Agricultural Product Firms in Nigeria?

Two hypotheses are formulated to achieve the research objective of the various parameters. The hypotheses are hereby stated in the null forms:

1. Ho1: Economic cost, social cost and environmental cost have no significant effect on market value per share of Quoted Agricultural Product Firms in Nigeria.
2. Ho2: Reporting the economic cost, social cost and environmental cost have no significant effect on Tobins Q Ratio of Quoted Agricultural Product Firms in Nigeria.

### LITERATURE REVIEW

This part focuses on the Conceptual Framework, Theoretical Framework and Empirical Review related to this study.

### CONCEPTUAL REVIEW

#### Triple Bottom Line Accounting

Triple Bottom Line provides a framework for measuring the performance of the business and the success of the organization using three lines: economic, social and environmental (Goel, 2010). In essence, Triple Bottom Line expresses the expansion of the environmental agenda in a way that integrates the economic and social lines (Alhaddin, 2015). Elkington (2004) in his definition of Triple Bottom

Line used the terms profit, people, and the planet as the three lines. In this study, the economic, social, and environmental lines refer to profit, people and planet respectively. Consistency in terms of referring to the three lines simultaneously is built into the structure of Triple Bottom Line as the construct is explicitly based on the integration of the social, environmental and economic lines. Triple Bottom Line literature reviewed showed inconsistent usage of the sustainability term. For example, some studies used sustainability to primarily refer to the environmental line (Yan, Chen & Chang, 2019). Others used the term to refer to the social line, while some used the term to refer to all three (Marcus & Fremeth, 2020). In regards to balance, Triple Bottom Line places an equal level of importance on each of the three lines (Alhaddin, 2015).

Elkington (2004) introduced the sustainability concept as triple bottom line. Triple Bottom Line Accounting captures the essence of sustainability by measuring the impact of an organization's activities on the world. This accounting practice goes beyond the traditional measure of profit, returns on investment and shareholders' value to include environmental and social dimension. Such reporting can be an important tool to support sustainability goals (Onyali, 2014). Although, Jackson, Boswell and Davis (2011) state that there is no real consensus as to the exact dimension used for performance measurement, performance can be measured based on the impact of companies on the society as a whole both now and into the future. Social and environmental information disclosure is also commonly referred to as corporate social responsibility reporting (Abbot & Monsen, 2019). It can also be defined as an environmental management strategy to communicate with stakeholders, which makes it corporate, social and environmental reporting.

Alhaddin (2015) states that the implementation of a triple bottom line approach is premised on a strategic approach to economic, environmental and social considerations, the definition of values associated with economic, environmental and social matters, and identifying and measuring performance areas of importance to key stakeholders. Chapman and Milne (2014) define triple bottom line reporting as the measurement, management and reporting of economic, environmental and social performance indications in a single report. They add that triple bottom line reporting is therefore best seen as a process that includes managing, measuring and publicly reporting multi-dimensional performance and integrating it with management process. It goes beyond the traditional way of reporting and

encourages businesses to give closer attention to the whole impact of their commercial activities over and above their financial performance (Dutta, 2012). Choi and Gary (2018) explain that Triple bottom line reporting is closely related to corporate social responsibility reporting and sustainability reporting. Social responsibility reporting refers to the measurement and communication of information about a company's effect on employee welfare, the local community and the environment. Information on company welfare may involve working conditions, job security, equality opportunity, workforce diversity and child labour. Environmental issues may include the impact of production process, products and services on air, water, land, biodiversity and human health. Social responsibility reporting is the communication about a company's responsibility for social and environmental aspects surrounding the business. This reflects that companies owe stakeholders an annual accounting of their social and environmental performance as the financial information they provide to shareholders. David, Ichorman and Donaldson (2019) explain that Triple Bottom Line is an important issue in contemporary international debates. Central to Triple Bottom Line is a concern for sustainability, particularly for environmental sustainability, as this is crucial for long-term success and survival even in financial terms, by which firms normally judge their success. Indeed, many corporate reports, which used to be designated as environmental reports and subsequently as Corporate Social Responsibility reports have now been repackaged as sustainability reports or triple bottom line report. Triple Bottom Line is a concept whereby companies integrate social and environmental concerns in their business operations and in their operations with their stakeholders on a voluntary basis (David *et al.*, 2019). Aktaruddin (2015) reports that triple bottom line accounting has a capacity for long-term performance, investment return and also value creation which refers to achieving sufficient profits. Companies that are apathetic to their environmental responsibility might experience eventual crashes on their stock price if their investors are rational in considering the future value of the firm based on its present state of environmental responsibility.

### **Application of Triple Bottom Line**

The application of the Triple Bottom Line Accounting by businesses, non-profit organizations, profit making organizations and governments is motivated by the principles of economic, environmental and social sustainability, but differ with regard to the way they measure the three categories of outcomes. Proponents who have



developed and applied sustainability assessment frameworks like the Triple Bottom Line, encountered many challenges, chief among them, how to make an index that is both comprehensive and meaningful and how to identify suitable data for the variables that compose the index. The Genuine Progress Indicator (GPI), for example, consists of variables that encompass economic, social and environmental factors. Those variables are converted into monetary units and summed into a single, dollar-denominated measure. Minnesota developed its own progress indicator comprising variables that focused on the goals of a healthy economy and gauged progress in achieving these goals (Chapman & Milne, 2014).

Triple Bottom Line Accounting refers to a method of measuring the economic, environmental and community service impacts of an organization rather than the traditional practice of measuring just the financial bottom line. Elkington (1997) coined 'triple bottom line' as a new term to advance his sustainability agenda. He wrote, "Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality and social equity. Companies aiming for sustainability need to perform, not against a single financial bottom line, but against the triple bottom line". Elkington's definition intended to go beyond previous constructions of "sustainable development and corporate social responsibility to encompass an approach that emphasizes economic prosperity, social development and environmental quality as an integrated method of doing business.

In the early 1990s, following trends in other countries, some companies started offering information about their environmental performance. Initially, the information was provided (voluntarily) in the annual report and tended to be self-mandatory. From about the mid-1990s, the standard of environmental performance reporting arguably improved as various environmental reporting guidelines were issued internationally. The growth of this broader "world sustainability" viewpoint can be seen in the number of companies that have begun reporting on more than just financial operations. Large corporations such as Weyerhaeuser Company, the Boeing Company, PricewaterhouseCoopers, the Procter & Gamble Company, Sony Corporation and Toyota Motor Corporation, have joined with many others to create the World Business Council for Sustainable Development (WBCSD, 2010), which focuses on creating a pathway to a world that would "require fundamental changes in governance structures, economic frameworks, and business and human behaviour." This council states that "the changes are necessary, feasible and offer tremendous

business opportunities for companies that turn sustainability into strategy" (WBCSD, 2010).

According to Onyali (2014), a number of reasons have been advanced as to why corporations or organizations are making greater social and environmental disclosures. The various reasons include: managers reacting to legal requirements, their belief that it is economically rational and the conviction that the economic benefits of disclosure might offset any associated costs however, they might simply be accepting that the organization has accountability to various stakeholders for how it uses the environmental resources that have been entrusted to it. Since there is no universally accepted way that organizations report social and environmental information, much experimentation is occurring as accounting bodies throughout the world look at forms of reporting. At the "radical" end of the experimentation, some organizations have attempted to monetize the environmental costs and benefits (or externalities) arising from their operations. This was promoted by the European Union, which in 1992 issued a document title "Towards Sustainability" as part of its Fifth Action Program, Stated in Sustainable Endowment Institute (SEI, 2012).

There is a large body of literature on integrated assessment and sustainability measures that grew out of the disciplines that measure environmental impact. These are not constrained by strict economic theory for measuring changes in social welfare. Researchers in environmental policy argue that the three, economic, social and environmental, need to be integrated in order to see the complete picture of the consequences that a regulation, policy or economic development project may have and to assess policy options and tradeoffs. Slaper and Hall (2019) state that the term "corporate social responsibility" is an expression used to describe what some see as company's obligation to be sensitive to the needs of all of the stakeholders; stakeholders are all those who are influenced by, or can influence, a company's decisions and actions. The stakeholders include, but are not limited to, employees, customers, suppliers, community, organizations, subsidiaries and affiliates, joint ventures partners, local neighbourhood, investors, pressure groups, government and its agencies and shareholders (or a sole owner).

Slaper and Hall (2019) state that social responsibility is seen as the intelligent and objective concern for the welfare of society which restrains individuals and corporate behaviour from ultimately destructive activities, no matter how immediately profitable and which leads in the direction of positive contribution to human betterment. Aktaruddin (2015) defines social

responsibility as a comprehensive set of policies, practices and programs that are integrated into business operations to address the legal, ethical, commercial and other expectations society has on business as well as making decisions that fairly balance the claim of all key stakeholders. A widely quoted definition by the World Business Council for Sustainable Development (2010) states that 'sustainability is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large. This holistic approach to business regards organizations as being full partners in their communities, rather than seeing them more narrowly as being primarily in business to make profit and serve the needs of their shareholders. This predicated upon the assumption that companies do have wider responsibilities than simply to make money for their shareholders (Onyali, 2014). However, this is contrary to the classical concept of corporate social responsibility as advocated by Milton Friedman in his caustic statement that the one and only social responsibility of business is to increase its profit (Abbot & Monsen, 2019), which supports the assertion in the following terms: "There is one and one social responsibility of business; it is to use its resources and engage in activities designed to increase its profit as long as it stays within the rules of the game which is to say engage in open and free competition, without deception or fraud.

### **Economic Cost**

Slaper and Hall (2019) argue that looking to Triple Bottom Line sustainability measures, the economic measures are straight forward money-related and financing figures, it is the combination of any goods that have a value attached to them by any one individual. Economic cost is used mainly by economists as a means to compare the prudence of one course of action with that of another. The factors to be taken into consideration are money, time and other resources. It includes the gains and losses precluded by taking a course of action as well as those of the course taken. Economic cost differs from accounting cost because it includes opportunity cost (sometimes accounting cost is referred to as explicit cost and opportunity or economic cost as implicit cost). Explicit and Implicit Cost: A firm's explicit costs comprise all explicit payments to the factors of production the firm uses. Wages paid to workers, payments to suppliers of raw materials, and fees paid to bankers and lawyers are all included among the firm's explicit costs. A firm's implicit costs consist of the opportunity costs of using the firm's own resources without receiving any explicit

compensation for those resources. For example, a firm that uses its own building for production purposes forgoes the income that it might receive from renting the building out. As another example, consider the owner of a firm who works along with his employees but does not draw a salary; the owner forgoes the opportunity to earn a wage working for someone else. These implicit costs are not regarded as costs in an accounting sense, but they are a part of the firm's costs of doing business, nonetheless. When economists discuss costs, they have in mind both explicit and implicit costs (Kimberlee, 2019).

### **Environmental Cost**

Environmental measures incorporate measuring the potential influences of business environmental impacts on natural resources and their viability. Environmental variables should represent measurements of natural resources and reflect potential influences on their viability. This would incorporate the contamination impact of water and air quality, greenhouse gas emissions, material recycling rates, water consumption, energy consumption, pollutant gases and substances, waste management of hazards, landfill and material waste management. Environmental cost of business is an enterprise action in order to fulfill environmental protection responsibilities, the implementation of national environmental protection laws, regulations and policies, and operations in order to prevent adverse impact on the natural environment and take appropriate measures to achieve environmental objectives. Environmental sustainability involves making decisions and taking action that are in the interests of protecting the natural world, with particular emphasis on preserving the capability of the environment to support human life (Kimberlee, 2019).

### **Social Cost**

Social cost in neoclassical economics is the sum of the private costs resulting from a transaction and the costs imposed on the consumers as a consequence of being exposed to the transaction for which they are not compensated or charged. In other words, it is the sum of personal and external costs. Private costs refer to direct costs to the producer for producing the good or service. Social cost includes these private costs and the additional costs (or external costs) associated with the production of the good which are not accounted for by the free market (Gruber, 2012). Social Cost is the cost related to the working of the firm but is not explicitly borne by the firm, instead it is the cost to the society due to the production of a commodity. The social cost is used in the social cost-benefit analysis of the overall impact of the operations of the business

on the society as a whole and does not normally figure in the business decisions. The social cost includes both the private cost and the external cost. The external costs are those costs which are directly related to the production and consumption of the commodity, but are not directly paid by the producer. These are the costs borne by the society and therefore is called social cost (Berger, 2017).

### **Social and Environmental Accounting**

Social and environmental accounting can be defined as a set of organizational activities that deal with the measurement and analysis of the social and environmental performance of organizations and the reporting of such results to concerned groups, both within and outside the organization (Berger, 2017). Social and environmental accounting is an inclusive field of accounting for social and environmental events which arise as a result of, and are intimately tied to, the economic actions of organizations. Deegan (2020) defines social and environmental accounting as accounting for a range of social and environmental events, rather than merely accounting for economic events. Social and environmental accounting is the preparation and publication of an accounting information about an organization's social and environmental matters to employee, community, customer and other stakeholder interactions and activities, and where possible, the consequence of those interactions and activities (Deegan, 2020). These accounts are presented for both internal and external use. Social and environmental accounting is not a wholly coherent area. Despite a number of differences, most definitions emphasize key themes such as a link between financial and non-financial performance, qualitative and quantitative measurement, and consideration of wider stakeholder groups. Most definitions indicate that social and environmental accounting stems from the assumption that organizations owe something to stakeholders beyond their shareholders. In particular, most definitions include the clear provision of an organization's social and environmental information to the wider stakeholder group or community. Most definitions consider social and environmental reporting as the part of the social and environmental accounting process.

### **The Social Contract Concept**

The social contract concept of Corporate Social Reporting (CSR) has been well acknowledged in past work (Matthews, 2017). Deegan (2020) agrees that social contract concept is responsible for corporate social reporting (CSR). Deegan, Rankin and Tobin (2021) opine that social contract is central to social change and reforms. Deegan (2020) associates the

social contract expectation with the legitimacy theory where "the social contract is between the organization and those affected by the organization's operations". An ecosystem is largely determined by the natural environment as opposed to the activities of man. There is a dynamic interrelationship between the natural environment and man. Environmental Right Actions' contribution to the issue of environmental sustainability emphasize that man has a critical responsibility to face the challenge of depletion of the environment. Eco-efficiency suggests that organizations can produce more useful products while simultaneously reducing negative environmental impacts, resource consumption and costs.

### **The Performance of Firms**

Saeed (2017) states that performance is a word that originates from the old French word 'Parfournir' whose meaning is to bring through, to carry out, to do or to bring forth. Performance is an act of performing, implementing, achieving and fulfilling of given tasks that need to be measured against defined sets of precision-money, fullness and timing. In finance, it refers to the measurement of the company's policies, activities and operational results in financial terms. It is used to check a company's success, compliance and financial position. These results are reflected in the firm's return on investment, assets, equity, capital employed and profitability. Performance is an extent to which a company's financial health over a period of time is measured. In other words, it is a financial action used in order to generate higher sales, profitability and worth of a business entity for its shareholders through managing its current and non-current assets, financing, equity, revenues and expenses. Its main purpose is to provide complete-to-the-point information to shareholders and stakeholders to encourage them in making decisions. It can be used to evaluate similar companies from the same industry or to compare industries in aggregation. Managing risk and increasing profitability of a firm and making good decisions. In order to take timely decision, accurate information and proper analyses of performance are necessary (Saeed, 2017).

One of the best ways of evaluating a sector's performance is by the use of ratio analysis like Tobins Q ratio, earning per share, market value per share, net asset value per share and economic value added (Saeed, 2017; Habib & Bahar, 2014). It shows the relation between one quantity or performance indicator over another, expressed mathematically to summarize a huge database. Performance principally reflects business sectors outcomes and results that shows overall financial health of the sector over a



specific period of time. It indicates how well an entity is utilizing its resources to maximize the shareholder's wealth and profitability. However, a complete evaluation of a firm's performance takes into account other different kind of measures.

**Market Value Per Share:** The market value per share or fair market value of a stock is the price at which a stock can be readily bought or sold in the current market place. Saeed (2017) in his article, states that the market value per share is the going price of a share stock. A company's worth or total value is called its market capitalization or market cap, and it is represented by the company's stock price multiplied by the number of shares outstanding.

**Tobin's Q Ratio:** The Tobin's Q ratio equals the market value of a company divided by its assets' replacement cost. Thus, equilibrium is when market value equals replacement cost (Saeed, 2017). The Tobin's Q ratio is a ratio popularized by James Tobin of Yale University, Nobel Laureate in Economics, who hypothesized that the combined market value of all the companies on the stock market should be about equal to their replacement costs. The Q ratio is calculated as the market value of a company divided by the replacement value of the firm's assets.  $Tobin's\ Q = (Equity\ Market\ Value + Liabilities\ Market\ Value) / (Equity\ Book\ Value + Liabilities\ Book\ Value)$ . Often, the assumption is made that the market value and the book value of a company's liabilities are equivalent. This reduces this version of the Tobin's Q ratio to the following:  $Tobin's\ Q = Equity\ Market\ Value / Equity\ Book\ Value$  (Saeed, 2017).

### Theoretical Review

The following theories can be used to explain Triple Bottom Line Accounting and performance of companies:

#### Stakeholder Theory

This research work is anchored on stakeholder theory. Within the economic, social and environmental accounting literature, a good deal of research suggests that economic, social and environmental performance and disclosure are means to manage relationships with stakeholders (Deegan & Blomquist, 2006). Ullman (2015) contends that an organization would use either performance or disclosure or both techniques simultaneously to manage its relationship with its stakeholders. In describing stakeholder theory, and the role of information in controlling (and potentially manipulating), the actions of powerful stakeholders show that the stakeholders are identified by the organization of concern, by reference to the extent to which the organization believes the interplay with each group needs to be managed in order to further the interests of the organization (the interests

of the organization need not be restricted to conventional profit-seeking assumptions). The more important the stakeholder is to the organization; the more effort would be exerted in managing the relationship. Information is a major element that can be employed by the organization to manage (or manipulate) the stakeholder in order to gain their support and approval, or to distract their opposition and disapproval. Stakeholder theory supports a proposition that the disclosure of particular types of information is used to gain or maintain the support of powerful stakeholders group (Deegan & Blomquist, 2006; Buhr, 2012; Bailey, Harte & Sugden, 2017; O'Donovan, 2021). In considering stakeholder theory, the disclosure of particular types of information can be used to gain, maintain the support of particular groups. For example, if a potentially powerful group is concerned about the economic, social or environmental performance of an organization, then that organization might perceive a need to publicly disclose information about that to implement so as to alleviate some of the concerns held by the powerful stakeholders (Deegan & Blomquist, 2006).

#### Stewardship Theory

Unlike agency theory, stewardship theory, based on a psychological and sociological approach, maintains that the interests of corporate executives (as stewards) are aligned with those of the organization and its owners (Adewusi, 2013). The stewardship theorists focus on structures that empower and facilitate rather than monitor control. Proponents of this theory reject the highly individualistic model of agency theory that promotes a suspicious "policeman attitude", assume that principals and agents have different interests and see agents as essentially self-serving and self-centered. Thus, they also reject the view that principals need to investigate the opportunistic agents by monitoring them and apply sanctions or incentives as means of control. Stewardship theory takes an opposite perspective; it suggests that the agents are trustworthy and good stewards of the resources entrusted in them, which makes monitoring unnecessary as the performance of the organization can be measured through some known indicators (Donaldson & Preston, 2015). Since managers are not opportunistic and act in the best interests of owners, they should also be given autonomy based on trust, and this reduces the cost of monitoring and controlling their behaviour. Donaldson and Preston (2015) in Ihendinihu (2019) observe that organizational role-holders are conceived as being motivated by the need to achieve and exercise responsibility and authority, to gain satisfaction through effectively performing essentially challenging work, and to gain recognition from peers

and bosses. According to stewardship theory, the behaviour of the steward is selective, because the steward seeks to achieve the organization's goals (e.g. profitability and performance). This in turn, benefits the principals through the positive effects to profits on Earnings Per Share, Economic Value Added, Net Asset Value Per Share etc (Davis, Hillier & McCollgan, 2017). Managers believe that their interests are aligned with those of the firm's owners.

The stewardship perspective sees directors, as well as managers, as stewards of the firm and this is likely to increase the shareholders' wealth. Davis *et al* (2017) posit that stewards gain greater satisfaction from achieving organizational goals than through pursuit of their own goals. They equally argue that the attainment of organizational success also satisfies the personal needs of the stewards. Thus, the stewardship theory considers that managers' decisions are also influenced by non-financial motives, such as need for achievement and recognition, the intrinsic satisfaction of successful performance, and respect for authority and the work ethic. They work diligently to gain high levels of corporate profit and financial performance of the organization which in turn gives shareholders returns. These concepts have been documented in organizational studies, such as in Mura (2017). It also considers that management is less likely to practice financial performance and investment. However, the problem lies in the extent to which the management aspires to attain a good corporate performance. Orji (2017) suggests that managers should identify with the firm and that would lead to personal relationship with the success or failure of the firm. Bailey, Harte and Sugden (2017) argue that managers also want to protect their reputations as expert decision makers. As a result, managers run the firm in a manner that amplifies financial performance, which includes shareholders' returns, as the firms' performance impacts directly on perception of their individual performance. The stewardship theory emerged as a result of a seminar work (Mura, 2017). The theory is based on the assumption that the interest of shareholders and the interest of management are aligned, therefore management is motivated to take decisions that would maximize performance and the total value of the company. The theory believes that there is greater utility in cooperative than individualistic behaviour and hence whilst the actions of management would be maximizing shareholder wealth, it would at the same time be meeting their personal needs. The managers protect and maximize shareholders' wealth through firm performance, because by so doing, their utility functions are maximized (Davis *et al*, 2017). To achieve this goal congruence, the stakeholders must put in place

appropriate empowering reporting structures and mechanism, information and authority to facilitate the autonomy of management to take decisions that would maximize their utility as they achieve organizational goals rather than self-serving objectives.

### Empirical Review

This section examines various studies that are dealt with at international and national levels with respect to Triple Bottom Line Accounting and its closely related topics such as Environmental and sustainable development, corporate social responsibility and economic perspectives of firms.

Schaltegger and Burritt (2020) in a book, "Contemporary Environmental Accounting", presented the models' results concerning the ranking of the different land-use options and discuss the implications for agro-environmental policies and rural development plans. The authors drew attention to three points, based on a case study that occurs on environmental planning for an ecological valuable agricultural landscape. First, whenever ecologically sensitive areas "ecological sites" are used for agricultural production, it is necessary to take account of the fact that farmers tend to adapt to environmental requirements by production responses outside the ecological site itself. Second, in order to identify the socially most "desirable" land-use responses it is necessary to supplement the above-mentioned environmental objectives by socio-economic ones. Third, when choosing an appropriate model for such multi-criteria decision analysis, the question of substitutability between criteria is of utmost importance.

Hamid (2022) in a paper titled, "Theoretical Framework for Environmental Accounting", explored how dominant environmental discourses can influence and shape carbon disclosure regulation. Carbon-related disclosures have increased significantly in the last five years, and many of these disclosures remain voluntary. His paper considered both the construction of self-regulated carbon disclosure practices and the role that this kind of carbon information may have in climate change-related decision making. He focused on the Carbon Disclosure Project (CDP) and the use of the Greenhouse Gas (GHG) Protocol as a reporting model within it.

Deegan (2012) in his work titled, "The Legitimizing Effect of Social and Environmental Disclosures" claimed that organizations should provide 'accounts' of not only their financial performance, but also of their social and environmental performance. Moreover, he dismissed the traditional financial



reporting frameworks suggestions. He also highlights the apparent absurdity of using market-based mechanisms, such as cap and trade systems for pollutants to solve social and environmental problems that were effectively caused by 'the market'.

Bala and Yusuf (2013) in a presentation titled, "Corporate Environmental Reporting" were concerned with social accounting when pollution gives rise to a consumption externality. The purpose of the paper was to reconcile the willingness to pay technique as a means of collecting information, put forward in earlier studies, with the growth theoretical approach to social accounting. This was accomplished by designing approximations of Pigouvian emission taxes on the basis of currently available willingness to pay information. The paper analyzed the welfare effects of these taxes as well as to what extent they can be used to measure (approximately) the value of depletion of environmental capital in the national accounts.

Chapman and Milnne (2014) in their work, "The Triple Bottom Line: How New Zealand Companies Measured" stated that Triple Bottom Line involves the measurement and reporting of economic environment and social performance indicators in a single report. Over the past few years, an increase number of New Zealand companies have produced such report, due mostly to the promotional effort of the New Zealand Business Council for Sustainability Development (NZBCSD). A lack of legal requirement or mandatory reporting standard, however, means the uptake of such reporting is not widespread beyond council members based on the UNEP\Sustainability benchmarking tools, their article report the result of an analysis of 30 NZBCSD members 200 triple bottom line reporting results from analysis showing that while the member of companies undertaking Triple Bottom Line Reporting is increasing, the standard of reporting generally remains poor. Only two reports generated over half of the total possible score according to the benchmarking tool. Commonly disclosed issues relates to management policies and systems, with evidence of some efficiency metrics (mostly energy and waste) being commonly used, employee and local communities are those stakeholders most frequently addressed in these reports. The article concluded with a section on how future triple bottom line report can be improved upon.

Yakhou and Dorweiler (2014) in a paper titled, "Environmental Accounting: An Essential Component of Business Strategy" investigated the level of Environmental Management Accounting (EMA) implementation in companies within

environmentally sensitive industries, as well as gaining insights into pressures for implementation. Implementation was driven by a motivation to reduce costs rather than environmental conservation. Apart from that, companies' reactions to environmental issues stem from pressures from customers who demand environmentally sensitive workplaces, procedures and processes in the companies with which they are in business.

Hassel, Nilson and Nuquist (2015), in a paper titled, "The value relevance of environmental performance" identified four key methodological challenges in developing ecosystem accounts: the definition of ecosystem services in the context of accounting, allocation to institutional sectors; the treatment of degradation and rehabilitation, and valuing ecosystem services consistent with principles. They analyzed the different perspectives taken on these challenges and present a number of proposals to deal with the challenges in developing ecosystem accounts. These proposals comprise several novel aspects, including (i) presenting an accounting approach that recognizes that most ecosystems are strongly influenced by people and that ecosystem services depend on natural processes as well as human ecosystem management; and, (ii) recording ecosystem services as either contribution of a private land owner or as generated by a sector 'Ecosystems' depending on the type of ecosystem service. They also present a consistent approach for recording degradation, and for applying monetary valuation approaches in the context of accounting. They also try capturing all environmental change, and the national accounts are far more useful economically than environmentally. They argue that green accounting can only ensure income (sometimes called weak) sustainability, which should be considered as a step leading ultimately to an ecological (or stronger) sustainability.

Matthews (2017), in a paper, "Twenty-Five Years of Social and Environmental Accounting Research (US)" presented the result of a survey of environment disclosure in the annual reports of 645 fortune 500 companies. Most companies did not provide any information about corporation's environment philosophy or policies, and 73% of the reports surveyed did not contain any discussion of environmental issues anywhere in the report of the companies that did make reference to environmental matters, 14% did so in a cursory manner in the letter of shareholders. The remainder provided either footnotes or some other type of disclosure within the report. Industry variations were noted, with companies in the energy, steel, chemical, pulp and paper industries and companies' utilities, were likely

to include environmental disclosure. The incidence of disclosure in these industries was 50% compared with 21% of all other companies. Overall environmental disclosures were general and limited, with the majority providing any generic disclosures. The authors provided a list of 17 issues, which they thought should be addressed and included in future annual reports.

## METHODOLOGY

This study adopted a cross-sectional and ex-post facto research design. We examined the inter-relationship among variables using data obtained from Nigeria Stock Exchange on a cross section of listed manufacturing companies in specific periods of 2016 to 2020. Panel Least Square regression and Multiple regression method is adopted to establish the relationship between the independent variable, Triple Bottom Line Accounting, and the dependent variable, The Performance of Quoted Agricultural product firms in Nigeria. In order to ascertain the truth and consistency of our result, the result obtained was subjected to statistical test using the parametric statistical procedures. In this regard, the parametric statistical test was adopted in testing our hypotheses at a significant level of 0.05. A significant level of 0.05 shows that; there are five chances in a hundred that a true null hypothesis would be rejected. This test is said to be significant if the hypothesis is null ( $H_0$ ), disregarded at 0.05 significant level, while the hypotheses in alternate ( $H_1$ ) accepted. Therefore, the parametric test used was Panel Least Square regression and Multiple Regression.

Thus, our functional model of TBL (independent variable) and FP (dependent variable) is represented as:

$$1. \text{MVPS} = f(\text{EC}, \text{SC}, \text{EVC}) \text{ --- (1)}$$

$$2. \text{TQR} = f(\text{EC}, \text{SC}, \text{EVC}) \text{ --- (2)}$$

Thus, in applying the multiple regression formula we have:

$$3. Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$4. \text{MVPS} = a + b_1\text{EC} + b_2\text{SC} + b_3\text{EVC} \text{ --- (3)}$$

$$5. Y_2 = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$\text{TQR} = a + b_1\text{EC} + b_2\text{SC} + b_3\text{EVC} \text{ --- (4)}$$

In this model as stated above, we evaluate the effect of Triple bottom line Accounting as expressed in the three different dimensions (EC) (SC) and (EVC) on (MVPS) and (TQR). However, it is expected that financial performance will be better implemented if Triple bottom line Accounting is efficient. Thus, the higher the Triple bottom line reports, the higher the financial performance. This would result in a significantly higher coefficient for (EC), (SC) and (EVC) in the multiple regression. Therefore, the modified version of the econometric model of (Adeusi, 2013) was adopted and it expressed the relationship functionally in our study as:

$$Y_{it} = a + \beta_1 \text{EC}_{it} + \beta_2 \text{SC}_{it} + \beta_3 \text{EVC}_{it} + \mu_t + \dots \beta_6 X_6$$

$$6. \text{MVPS}_{\mu} = a + \beta_1 \text{EC}_{it} + \beta_2 \text{SC}_{it} + \beta_3 \text{EVC}_{it} + \mu_t \text{ --- (5)}$$

$$7. \text{TQR}_{\mu} = a + \beta_1 \text{EC}_{it} + \beta_2 \text{SC}_{it} + \beta_3 \text{EVC}_{it} + \mu_t \text{ --- (6)}$$

Thus: apriori expectation  $\beta_1, \beta_2, \beta_3, > 0$

Howbeit, given the interrelationship between the three independent and five dependent variables, financial performance of a given manufacturing firm (MVPS and TQR), would depend on (EC), (SC) and (EVC) plus some confounding variable  $\mu_t$ .

Where:

$\text{MVPS}_{it}$  = Market Value Per Share

$\text{TQR}_{it}$  = Tobin Q Ratio

$a$  = the intercept

$\beta_1 \text{EC}$  = Economic Cost

$\beta_1 \text{SC}_{it}$  = Social Cost

$\beta_1 \text{EVC}_{it}$  = Environmental Cost

$\mu_t$  = Composite error term

## DATA PRESENTATION

### Descriptive Analysis for all Listed Manufacturing Firms

The descriptive analyses of the variables in this work were conducted for all Quoted Agricultural Firms in this study. The performance of Quoted Agricultural Firms in Nigeria formed a panel studies data; and the descriptive analyses of each of the series were taken to assess the measure of variability obtainable in the series before further estimations will be carried out.

**Table 1: Result of Descriptive Analysis**

	TQR	SC	NAVPS	MVPS	EVC	EVA	EPS	EC
Mean	26.88000	1877056.	13.80595	45.28110	44168720	1.42E+08	21.99284	2.67E+08
Median	27.00000	53276.00	4.230000	1.005000	409125.0	1777310.	1.310000	5005855.
Maximum	52.00000	1.01E+08	152.0000	1555.990	1.49E+09	7.27E+09	570.0000	1.44E+10
Minimum	11.00000	0.000000	0.000000	0.000000	0.000000	0.000000	-24.19000	0.000000
Std. Dev.	7.647090	9829133.	21.05846	176.6695	1.67E+08	8.32E+08	78.78201	1.58E+09
Skewness	0.373873	7.368692	2.573683	6.286386	5.723371	6.556241	5.428705	7.251795
Kurtosis	3.050943	63.63298	12.65714	44.81117	40.15443	46.39650	33.78455	55.80583

Jarque-Bera	4.680992	32446.24	997.9638	15885.40	12595.67	17126.62	8879.766	24990.08
Probability	0.096280	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	5376.000	3.75E+08	2761.190	9056.220	8.83E+09	2.84E+10	4398.567	5.35E+10
Sum Sq. Dev.	11637.12	1.92E+16	88248.27	6211208.	5.53E+18	1.38E+20	1235115.	4.99E+20
Observations	200	200	200	200	200	200	200	200

*Source: Researcher's Eviews Computations, 2023*

The eight variables in this work were all selected to have coverage of almost all the important indicators of listed manufacturing companies in Nigeria. The selected variables include Earning Per Shares (EPS), Market Value Per Share [MVPS], Tobin Q Ratio [TQR], Net Asset Value Per Share [NAVPS] and Economic Value Added [EVA], which is the dependent variable while the independents variables are: Economic Cost (EC), Social Cost (SC) and Environmental Cost (EVC). The combination of these indicators in this research is believed by the researcher to be able to generate the true picture of listed manufacturing companies in Nigeria.

The result of the descriptive analysis as shown on table 4.36 indicates that EC has a high level of spread. This is in consideration of the maximum value of 1.44E+10 as against the minimum value of 0.000000 as well as the median score of 5005855. This shows that EC of the manufacturing firms has a wide level of variability within the study time frame of 2016 to 2020. It also suggests that EC may have improved over time or fluctuated significantly. EC is also found to have some data points lying away from the mean score of 2.67E+08 pointing to the fact that EC has more data points that are close to the minimum score than those closer to the maximum score. The central value of 5005855 i.e. the median is far from the maximum value and being a value at the middle, it implies that more than half of the data points on EC are less than or equal to 5005855; hence we can say that the performance of quoted agricultural product firms within the five years period covered by the study is on the low side considering the maximum score of 1.44E+10. The standard deviation of the variable also supports this finding as its value of 1.58E+09 implies a minimal deviation of the observations from their mean.

The EPS which is one of the dependent variable, has a lesser level of spread as its values range from the minimum value of -24.19000 to maximum of 570.0000. This suggests that the variations in the consumer goods in this study are not widely spread as can be deduced by its median score of 1.31000 and mean score of 21.999284 approximately. It indicates that these listed manufacturing companies have little variation in their behavioral pattern as regarding EPS. The standard deviation of 28.78201 obtained for the series also suggests that the observations are not closely clustered around the mean.

EVC is another variable in manufacturing firms from the standpoint of frequencies, according to the result obtained on the above table 4.36, EVC ranged from the minimum value of 0.000000 times to maximum of 1.49E+09 in a year across the quoted agricultural product firms in Nigeria. However, these extreme values will not be enough to make a logical conclusion without recourse to the mid-values as depicted by the mean and median values which are 409125.0 respectively. The mean as a measure of central tendency herein suggests that average consumer goods among our panel has 44168720 in a year. The median value of 409125.0 also indicates the observations are well spread around their mean suggesting that the variables in this study have varying degree of EVC frequencies which are not tilted to any one side of the two extremities.

SC is another variable in the quoted agricultural product firms, from the descriptive analysis result obtained, the minimum value of 0.000000 suggests that in a year, at least one of the listed manufacturing firms in the study panel has a SC of 0.000000. But the maximum value of 1.01E+08. The observations for SC appears to be well dispersed judging from its median score of 53276.00.

The TQR, which is one of the dependent variables, has a lesser level of spread as its values range from the minimum value of 11.000000 to maximum of 52.000000. This suggests that the variations in the quoted agricultural product firms in this study are not widely spread as can be deduced by its median score of 27.0000 and mean score of 26.88000 approximately. It indicates that these quoted agricultural product firms have little variation in their behavioral pattern as regarding TQR. The standard deviation of 7.647090 obtained for the series also suggests that the observations are not closely clustered around the mean.

The NAVPS which is one of the dependent variable, has a lesser level of spread as its values range from the minimum value of 0.000000 to maximum of 152.0000. This suggests that the variations listed manufacturing firms in this study are not widely spread as can be deduced by its median score of 4.230000 and mean score of 13.80595 approximately. It indicates that these quoted agricultural product firms have little variation in their



behavioral pattern as regarding NAVPS. The standard deviation of 21.05846 obtained for the series also suggests that the observations are not closely clustered around the mean.

The MVPS which is one of the dependent variable, has a lesser level of spread as its values range from the minimum value of 0.000000 to maximum of 1555.990. This suggests that the variations in the quoted agricultural product firms in this study are not widely spread as can be deduced by its median score of 1.005000 and mean score of 45.28110 approximately. It indicates that these quoted agricultural product firms have little variation in their behavioral pattern as regarding MVPS. The standard deviation of 176.6695 obtained for the series also suggests that the observations are not closely clustered around the mean.

The EVA, which is one of the dependent variables, has its values ranging from the minimum value of 0.000000 to maximum of 7.27E+09. This suggests that the variations in the consumer goods in this study are not widely spread as can be deduced by its median score of 1777310 and mean score of 1.42E+08 approximately. It indicates that these quoted agricultural product firms have little variation in their behavioral pattern as regarding EVA. The standard deviation of 8.32E+08 obtained for the series also suggests that the observations are not closely clustered around the mean.

Summarily from the results of the descriptive analysis, the data obtained and described above showed a manageable level of spread though they all have a Jarque-Bera probability values of less than 5%, hence the researcher deemed it fit to be utilized for the purpose of analyzing the objectives raised in the initial section of this work.

### Test of Hypotheses

The two hypotheses formulated in this research work were analyzed using panel regression with the adoption of fixed effect or least square dummy variable (LSDV) model.

### Hypothesis 1

H<sub>01</sub>: There is no significant effect of Economic Cost, Social Cost and Environmental Cost on Market Value Per Share of Quoted Agricultural Product firms in Nigeria.

**Table 2: Panel Multiple Regression of Triple Bottom Line Accounting Indicators on Market Value Per Share of Quoted Agricultural Product firms in Nigeria.**

Dependent Variable: MVPS  
Method: Panel Least Squares  
Date: 04/07/23 Time: 13:32  
Sample: 2016 2020  
Periods included: 5  
Cross-sections included: 40  
Total panel (balanced) observations: 200

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45.25341	13.26434	3.411658	0.0008
SC	-2.59E-07	1.98E-06	-0.131080	0.8958
EVC	7.00E-09	7.57E-08	0.092394	0.9265
EC	7.67E-10	1.23E-08	0.062537	0.9502
R-squared	0.000151	Mean dependent var	45.28110	
Adjusted R-squared	-0.015153	S.D. dependent var	176.6695	
S.E. of regression	178.0029	Akaike info criterion	13.22127	
Sum squared resid	6210268.	Schwarz criterion	13.28724	
Log likelihood	-1318.127	Hannan-Quinn criter.	13.24797	
F-statistic	0.009882	Durbin-Watson stat	0.136415	
Prob(F-statistic)	0.998649			

*Source: Researcher's E-views Computations 2023*

Table 2 is the result of the panel multiple regressions using the fixed effect model and forms our reference result for testing hypothesis two in this work. The result in Table 2; shows that Economic Cost (EC) of these firms as an integral part of Triple Bottom Line Accounting have a positive effect on the Performance of Listed Manufacturing Firms in Nigeria. This is because the beta coefficient of MVPS at the lag of three years has a

positive result which suggests that Economic Cost (EC) of the Triple Bottom Line Accounting moves in the same direction with the Performance of Listed Manufacturing Firms in Nigeria. The significance of this result is 99.8% as shown by the probability value of the Economic Cost (EC) t-statistics. So the study argues on the merit of this finding that the Performance of Listed Manufacturing Firms in Nigeria of selected Industrial Goods is directly responsive to their Economic Cost (EC) albeit at a statistically significant level. So we conclude that Economic Cost (EC) has a positive significant effect on the Performance of Quoted Agricultural Product Firms in Nigeria.

The Environmental Cost (EVC) is another variable of Triple Bottom Line Accounting. It has a positive significant effect on the performance of Quoted Agricultural Product Firms in this study. The findings on table 2, suggests that increased frequencies of Environmental Cost (EVC) for the Triple Bottom Line Accounting in this study are associated by a corresponding increase in the Performance of Quoted Agricultural Product Firms. Social Cost (SC) has a negative and non-significant effect on the Performance of Quoted Agricultural Product Firms as evidenced by the beta coefficient value of  $-0.015153$ . This implies that Social Cost (SC) of Triple Bottom Line Accounting does not move together with the Performance of Quoted Agricultural Product Firms. However, the residual statistics of the multiple regression model suggests that our regression model which regressed Triple Bottom Line Accounting on the Performance of Quoted Agricultural Product Firms is well-fitted. This is because the r-squared outcome underscores the ability of the selected explanatory variables to predict changes that occur in the Performance of Quoted Agricultural Product. The multiple co-efficient of determination ( $R^2$ ) of 0.00151, and the P.F Statistics is 0.998649 indicates that the variation in Market Value Per Share of Quoted Agricultural Product firms in Nigeria is attributable to changes in Economic Cost, Social Cost and Environmental Cost.

## Hypothesis II

Ho2: There is no significant effect of Economic Cost, Social Cost and Environmental Cost on Tobin's Q Ratio of Quoted Agricultural Product firms in Nigeria.

**Table 3: Panel Multiple Regression of Triple Bottom Line Accounting Indicators on Tobins Q Ratio of Quoted Agricultural Product firms in Nigeria**

Dependent Variable: TQR  
Method: Panel Least Squares  
Date: 04/07/23 Time: 13:12  
Sample: 2016 2020  
Periods included: 5  
Cross-sections included: 40  
Total panel (balanced) observations: 200

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.10743	0.566786	47.82658	0.0000
SC	1.10E-07	8.45E-08	1.300942	0.1948
EC	-6.71E-10	5.24E-10	-1.280485	0.2019
EVC	-5.76E-09	3.24E-09	-1.779030	0.0768
R-squared	0.025613	Mean dependent var		26.88000
Adjusted R-squared	0.010699	S.D. dependent var		7.647090
S.E. of regression	7.606072	Akaike info criterion		6.915568
Sum squared resid	11339.06	Schwarz criterion		6.981534
Log likelihood	-687.5568	Hannan-Quinn criter.		6.942264
F-statistic	1.717387	Durbin-Watson stat		1.003332
Prob(F-statistic)	0.164723			

**Source: Researcher's E-views Computations 2023**

Table 3 is the result of the panel multiple regressions using the fixed effect model and forms our reference result for testing hypothesis three in this work. The results on table 3 above shows the regression result obtained for Triple Bottom Line Accounting in this

study and Performance of Quoted Agricultural Product Firms in Nigeria. The result shows that Social Cost (SC) of these firms as an integral part of Triple Bottom Line Accounting have a positive effect on the Performance of Quoted Agricultural Product

Firms in Nigeria. This is because the beta coefficient of TQR at the lag of three years has a positive but non-significant result which suggests that Social Cost (SC) of the Triple Bottom Line Accounting moves in the same direction with the Performance of Quoted Agricultural Product Firms in Nigeria.

Economic Cost (EC) exhibits a positive non-significant effect on the Performance of Quoted Agricultural Product Firms in Nigeria. The regression result on table 3 above suggests that frequencies of Economic Cost (EC) for the firms are associated by a corresponding increase in the Performance of Quoted Agricultural Product Firms in Nigeria. This result implies that Economic Cost (EC) frequencies as currently maintained by all the listed firms in this study attract a positive non-significant reaction from the Performance of Quoted Agricultural Product Firms in Nigeria. Though the t-statistics of the beta coefficient is within the accepted statistical bound of 0% yet considering the direction of the relationship, it is evident that EC are inversely associated with the Performance of Quoted Agricultural Product Firms in Nigeria. So we therefore conclude that EC of Quoted Agricultural Product Firms in this study have positive non-significant effect on the Performance of Quoted Agricultural Product Firms in Nigeria.

EVC exhibit a positive and non-significant effect on the Performance of Quoted Agricultural Product Firms in Nigeria. The regression result on table 3, suggests that frequencies of EVC for the firms are associated by a corresponding decrease in the Performance of Quoted Agricultural Product Firms in Nigeria. This result implies that EVC frequencies as currently maintained by all the listed firms in this study attract a negative reaction from the Performance of Quoted Agricultural Product Firms in Nigeria. Though the t-statistics of the beta coefficient is within the accepted statistical bound, yet considering the direction of the relationship, it is evident that EVC are directly associated with the Performance of Quoted Agricultural Product Firms in Nigeria. So we therefore conclude that EVC of Quoted Agricultural Product Firms in this study have positive and non-significant effect on the Performance of Quoted Agricultural Product Firms in Nigeria. The SC shows a positive influence on the Performance of Quoted Agricultural Product Firms in Nigeria. The implication of the results is that the frequency with which the SC has shown a positive and non-significant influence on the Performance of Quoted Agricultural Product Firms in Nigeria. This is evidenced by the beta co-efficient of 0.0000 which also followed by a positive P.F-statistics of 0.164723, significant level.

Considering the residual statistics, we note that the result of the multiple regression analysis is further strengthened by some important outcomes. The  $R^2$ -square of 0.025613 indicates a considerable level of correlation amongst the series of Triple Bottom Line Accounting indicators utilized in the estimation of the multiple regression equation and the Performance of Quoted Agricultural Product Firms in Nigeria. It also connotes the possibility of the influence from the selected independent variables which are Triple Bottom Line Accounting indicators on Tobin's Q Ratio.

## CONCLUSION

From the findings of this study, the total of two hypothesis formulated in the introduction of this research were analyzed using panel least square regression and multiple regression with the adoption of fixed effect or least square dummy variable (LSDV) model. The choice of this model is based on the fact that fixed effect or LSDV model allows for heterogeneity or individuality among the cross sections which are the individual listed manufacturing companies in Nigerian stock exchange. However, our selection of fixed effect regression over random effect was further buttressed by the results of the Hausman test. Based on this, we accept that the various indicators of Triple Bottom Line Accounting, in this research work, jointly have significant influence on the Performance of Listed Manufacturing companies in Nigeria since the residual statistics indicate that the regression model is properly fitted.

Having gone through the preceding parts, it is clear that Triple Bottom Line Accounting jointly has significant influence on Financial Performance of Listed Manufacturing companies in Nigeria. It was established that Economic Cost (EC) and Environmental Cost (EVC) have a positive and significant effect on the variables of performance of listed manufacturing companies in Nigeria while Social Cost has positive and non-significant effect on the variable of performance of manufacturing companies in Nigeria. Hence, the following recommendations are made: The government, as the custodian and protector of the society, and the environment, should help put in place some guidelines, for manufacturers to contribute to their environment and the society at large. Investors have this competitive nature that measures their performance and how to remain in business for a longer time; therefore, responsiveness to the environment and the society at large will help them in their investment decisions. Business management and managers should adopt triple bottom line as a guide to report to stakeholder on the allocation of benefits not



only to shareholders but to other stake holders. Triple bottom line should be adopted by researchers in accounting, for theoretical and practical contributions to explain sustainability accounting in the area of economic, social and environmental information in respect to performance of manufacturing companies. It will, therefore, definitely enhance the quality of literature in the field of accounting. Furthermore, researchers in this field will benefit since this can serve as a bench mark for future research on reporting of economic, social and environmental information and its effects on performance of manufacturing companies.

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